

LAND RECONSTRUCTION, CURRENTLY MINED LAND (acre)STANDARDDefinition

Restoring currently mined land to an acceptable form and for a planned use.

Purpose

To prevent permanent damage to soil and water resources in and near mined areas. To restore the productivity of soils to permit their premining use or a more intensive use. To control erosion and sedimentation, protect water resources, preserve the environment, and provide an economic use of the land.

Conditions Where Practice Applies

Currently mined areas that will be adversely affected by mining practices.

Planning Considerations

1. With use of a soil survey, evaluate soils significant to reconstruction operations and identify prime farmland.
2. Evaluate water and other related resources.
3. Consider locations for storage of soil material, access and haul roads, and possible permanent impoundments.
4. Consider measures for placement of spoil, water disposal, replacement of soil material, erosion and sediment control, restoration of soil productivity, and revegetation of disturbed areas.
5. Prepare a reclamation plan specifying required procedures for conducting reconstruction operations.

SPECIFICATIONSA. General

Specifications listed below apply only to the identification, removal, stockpiling, and replacement of soil materials on currently mined land. They also apply to nearby areas that are affected by the mining of various minerals or commodities. They do not include practices for erosion control or revegetation of disturbed areas. Refer to Section III-A-9 of the Technical Guide to determine practices needed.

LAND RECONSTRUCTION, CURRENTLY MINED LAND (Continued)

B. Site Preparation

Areas shall be cleared of trees, logs, brush, rubbish, and other undesirable materials. Areas to be preserved, including those containing vegetation, stream corridors, natural springs, or other important features, shall be properly identified and protected.

C. Removal of Soil Material for Use as Topsoil

All upper soil horizons to be used in reconstructing the soil shall be removed from the immediate area before drilling for blasting, mining, or any surface disturbance other than removal of woody plants.

All the surface layer shall be removed for use as surface soil on disturbed areas. If the surface layer is less than six inches thick, enough material, other than bedrock, immediately below the surface layer can be removed and used to obtain this thickness. If the total thickness of the available material is less than six inches, all unconsolidated material can be used.

On prime farmlands and lands of statewide importance, and on other lands where increased soil productivity is required for a post-mining use, the subsoil or part of the underlying layers suitable for root development shall be removed and segregated for use as subsoil. The minimum depth of the soil and the soil material to be reconstructed shall be 48 inches or be equal to the depth of the subsurface layers in the natural soil, whichever is less.

D. Removal of Overburden Material for Use as Topsoil

Selected overburden material can be substituted for or be added to the material in the surface layer and subsoil if it is demonstrated by field observations and chemical and physical laboratory analyses that the overburden material or the overburden and topsoil mixture is better suited to use in restoring the capability and productivity of the land than the material originally in the surface layer and subsoil. Analyses can include determination of pH value; sulfide content; percentage of organic material, nitrogen, phosphorus, and potassium; texture; and available water capacity. Field-site trials or greenhouse tests may be needed to ascertain the feasibility of using overburden material.

If it is determined that the overburden material is suitable, it must be removed, segregated, and replaced according to the requirements specified in this standard.

LAND RECONSTRUCTION, CURRENTLY MINED LAND (Continued)

E. Storage of Topsoil Material

If it is impractical to spread the topsoil immediately after the land is regraded, it must be stockpiled. Stockpiles shall be selectively located and protected from wind and water erosion, unnecessary compaction, and contamination by undesirable materials. An effective vegetative cover or other suitable practices can provide adequate protection.

F. Replacement of Topsoil

1. Before spreading the topsoil, the regraded areas must be scarified or otherwise treated to eliminate slippage surfaces and to promote root penetration.
2. Topsoil shall be spread in a manner that:
 - a. Insures that the position and thickness of each horizon is equivalent to those in the undisturbed soil.
 - b. Prevents excess compaction. The bulk density of the reconstructed soil when moist must permit the soil to support equivalent plant growth as a similar layer in the undisturbed soil.
 - c. Protects the topsoil from wind and water erosion before it is seeded and planted.

G. Nutrients and Soil Amendments

After the topsoil has been spread on the disturbed areas, nutrients and soil amendments shall be applied according to the needs determined by soil tests.

H. Maintenance

A plan shall be prepared that provides specific details concerning maintenance and operation of conservation practices identified in the reclamation plan.

Planning considerations for water quantity and quality

This practice is a management system that may combine practices to most conservation goals. Consult the planning considerations for water quantity and quality for the practices used in this system.

A special concern is the potential for uncovering or redistributing toxic materials from earth moving activities.